

IN THE CLAIMS:

The listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method for connecting one of several customer premises equipment, ~~or CPE~~, via an ATM network to one of several service providers, ~~or SPs~~, said method comprising:

connecting each customer premises equipment CPE to an ATM network via a corresponding network termination point, ~~or NT~~; and

forming an access server function, ~~or ASF~~, having a permanent virtual connection to each NT and a connection to each service provider SP;

~~characterized in that~~

establishing a tunnelling protocol ~~is established~~ on said permanent virtual connection between each NT and said access server function ASF, said tunnelling protocol being able to support an integrated signalling protocol;

the customer premises equipment CPE or its user ~~selects~~ selecting an appropriate service provider SP by using said integrated signalling protocol;

performing routing from said customer premises equipment CPE to said selected service provider SP ~~is performed~~ by said access server function ASF; and

said access server function ASF ~~connects~~ connecting the customer premises equipment CPE to the selected service provider SP using said integrated signalling protocol.

2. (Currently Amended) ~~The~~ A method according to claim 1, ~~characterized by~~ further comprising providing one permanent virtual connection from the access server function ASF to each service provider SP.

3. (Currently Amended) ~~The~~ A method according to claim 1, ~~characterized by~~ further comprising providing a pool of permanent virtual connections from the access server function ASF to each service provider SP; and allocating one connection to each network termination point NT from said pool.

4. (Currently Amended) The A method according to claim 1, characterized by further comprising establishing one switched virtual connection (SVC) from the access server function ASF to each service provider SP, on the basis of signalling which the access server function ASF receives from said customer premises equipment CPE via said tunnelling protocol

5. (Currently Amended) The A method according to claim 1, characterized by further comprising establishing said tunnelling protocol only in response to detecting appropriate activity in said customer premises equipment CPE.

6. (Currently Amended) The A method according to claim 1, characterized by further comprising establishing said tunnelling protocol permanently and initiating said integrated signalling and authenticating the user of said customer premises equipment CPE only in response to detecting appropriate activity in said customer premises equipment CPE.

7. (Currently Amended) The A method according to claim 1, characterized by further comprising authenticating the user of said customer premises equipment CPE both by said access server function ASF and by the selected service provider SP.

8. (Currently Amended) A network element (~~ASF~~) providing an access server function for connecting each of several customer premises equipment, ~~or CPE~~, via an ATM network to one of several service providers, ~~or SPs~~, said network element comprising:

interface means to several network termination points, or network termination points NTs for connecting each customer premises equipment CPE to the ATM network via a corresponding network termination point NT; and

interface means to each service provider SP for providing a permanent virtual connection or a switched virtual connection thereto;

~~characterized in that the network element is arranged to:~~

~~use~~ means for using a tunnelling protocol on said permanent virtual connection between itself and each network termination point NT, said tunnelling protocol being able to support an integrated signalling protocol;

~~select~~ means for selecting an appropriate service provider SP in response to signalling from each customer premises equipment CPE or its user, said selecting being carried out using said integrated signalling protocol;

~~support~~ means for supporting routing from each customer premises equipment CPE to said selected service provider SP; and

~~connect~~ connecting each customer premises equipment CPE to the selected service provider SP using said integrated signalling protocol.

9. (Currently Amended) ~~The~~ A network element (~~ASF~~) according to claim 8, ~~characterized in that it is arranged to provide~~ further comprising means for providing one permanent virtual connection from itself to substantially each SP each of several service providers.

10. (Currently Amended) ~~The~~ A network element (~~ASF~~) according to claim 8, ~~characterized in that it is arranged to provide~~ further comprising means for providing a pool of permanent virtual connections from itself to each service provider SP and to allocate one connection to each active network termination point NT from said pool.

11. (Currently Amended) A network element access server function ASF according to claim 8, ~~characterized in that it is arranged to provide~~ further comprising means for providing a switched virtual connection from itself to at least one service provider SP.

12. (Currently Amended) ~~The A~~ network element (~~ASF~~) according to claim 8, ~~characterized in that it is arranged to provide~~ further comprising means for providing a separate tunnel from itself to substantially each CPE each of several customer premises equipments.

13. (Currently Amended) ~~The A~~ network element (~~ASF~~) according to claim 8, ~~characterized in that it is arranged to cooperate~~ further comprising means for cooperating with an network termination point NT between itself and each customer premises equipment CPE,

said network termination point NT being arranged to provide a separate tunnel from itself to ~~substantially each CPE~~ each of several customer premises equipments and to combine the separate ~~tunnel~~ tunnels into fewer tunnels, ~~preferably a single tunnel,~~ from itself to the network element~~ASF~~.

14. (New) The network element according to claim 13, wherein the number of said fewer tunnels is one.